

538

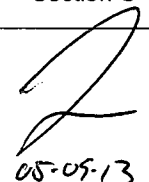
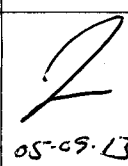
DART AEROSPACE LTD		Work Order:	24129
Description: Dart 13-Man Shoulder Harness Kit (205/212/214/412)		Part Number:	D3196-1 D412-702-011
Dwg: D3195 Rev. A; D3196 Rev. A; D3197 Rev. A		Qty:	15 Kit(s)
Ref: D412-702 Rev.A page 9		Page 1 of 4	


Step	Location	Procedure	By	Date	Qty
1	DC	Issue Traveler Note: D412-702-011 Kit consists of (2) D3195-041; (2) D3195-043; (1) D3196-1; (1) D3196-3; (1) D3196-4; (2) D3197-041.	W	05-08-31	15
2	DC	Photocopy bluefile and create labels per PPP D412-702-011 CHG001	NH	05-09-06	15
3	MV	Cut (2) blanks per (1) D412-702-011 Kit Cut blanks: (0.75" x 2.00") x 3.60" long Bar Material: 6061-T6/T651 (QQ-A-200/8) or (QQ-A-225/8) or (QQ-A-250/11) (M6061T6B0.750x02.000) Identify for D3195-1 Batch:			
4	MV	Cut (2) blanks per (1) D412-702-011 Kit Cut blanks: (1.50" x 1.25") x 3.60" long Bar Material: 6061-T6/T651 (QQ-A-200/8) or (QQ-A-225/8) or (QQ-A-250/11) (M6061T6B1.500x01.250) Identify for D3195-3 Batch:	NH	W	
5	MV	Cut blank: (0.75" x 1.50") x 26.200" long Bar Material: 6061-T6/T651 (QQ-A-200/8) or (QQ-A-225/8) (M6061T6B0.750x01.500) Identify for D3196-1 Batch: M15031	5	05-10-09	15
6	MV	Cut (2) blanks per (1) D412-702-011 Kit Cut blanks: (0.75" x 1.50") x 34.750" long Bar Material: 6061-T6/T651 (QQ-A-200/8) or (QQ-A-225/8) (M6061T6B0.750x01.500) Identify (1) for D3196-3 Identify (1) for D3196-4 Batch:			
7	MV	Cut (2) blanks per (1) D412-702-011 Kit Cut blanks: 29.125" long Round Bar Material: 7075-T73 (QQ-A-200/11) or (QQ-A-225/9) 1" OD (M7075T73R1.000) Identify for D3197-1 Batch:			
8	MV	Machine D3195-1 as per Folio FA334 and Dwg D3195 Identify as D3195-1			
9	QC2	Inspect parts as they come off the CNC machine			
10	MV	Deburr and Tumble			
11	QC8	Second check			
12	MV	Machine D3195-3 as per Folio FA334 and Dwg D3195 Identify as D3195-3			
13	QC2	Inspect parts as they come off the CNC machine			
14	MV	Deburr and Tumble			
15	QC8	Second check			

RELEASED

04-01-05

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			
05/09/13	16	one D3196-1 Crankshaft 700" install 0.660" OK to DCCP	RT 05.09.13	IT IS ACCEPTABLE AS PER DAVID E-MAIL. SEE ATTACH SEET	Er 05/09/13	 05-09-13	RT 05.09.13	 05-09-13

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA:  Date: 05/10/2013

NOTE: Date & initial all entries

QA: N/C Closed: _____

Date: _____

DART AEROSPACE LTD		Work Order:	24129
Description: Dart 13-Man Shoulder Harness Kit (205/212/214/412)		Part Number:	D3196-1 D412-702-011
04.02.23 512			
Dwg: D3195 Rev. A; D3196 Rev. A; D3197 Rev. A		Qty:	15 Kit(s)
Ref: D412-702 Rev:A page 9			Page 2 of 4

Step	Location	Procedure	By	Date	Qty
16	MV	Machine D3196-1 as per Folio FA339 and Dwg D3196 Identify as D3196-1	SD	05.09.12	15
17	QC2	Inspect parts as they come off the CNC machine	SD	05.09.12	15
18	MV	Deburr	SD	05.09.12	15
19	QC8	Second check	Ed	05/09/13	15
20	MV	Machine D3196-3 as per Folio FA339 and Dwg D3196 Identify as D3196-3			
21	QC2	Inspect parts as they come off the CNC machine			
22	MV	Deburr			
23	QC8	Second check			
24	MV	Machine D3196-4 as per Folio FA339 and Dwg D3196 Identify as D3196-4			
25	QC2	Inspect parts as they come off the CNC machine			
26	MV	Deburr			
27	QC8	Second check	N/A		
28	MV	Machine D3197-1 as per Folio FA340 and Dwg D3197 Note: Need to be faced to size Identify as D3197-1			
29	QC2	Inspect parts as they come off the CNC machine			
30	MV	Deburr			
31	QC8	Second check			
32	FP	Chemical Conversion Coat as per QSI 005 4.1 D3195-1/-3; D3196-1/-3/-4; D3197-1	FC	050920	15
33	FP	Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3 D3195-1/-3; D3196-1/-3/-4; D3197-1	FC	050921	15
34	QC3	Inspect work to Step 33.	MM	050921	15
35	GA 04-04-05	Cut (2) blanks per (1) D412-702-011 Kit Cut blanks: (4.986" x 0.500") x 0.125" thick as per Dwg D3195 Material: D3195 Rubber 2.500" Punch holes as per Dwg Identify as D3195-5 Batch:	N/A		
36	GA 04-04-05	Cut (2) blanks per (1) D412-702-011 Kit Cut blanks: (4.986" x 1.000") x 0.125" thick as per Dwg D3195 Material: D3195 Rubber 2.500" Punch holes as per Dwg Identify as D3195-7 Batch:	N/A		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

NOTE: Date & initial all entries

QA: N/C Closed: _____ Date: _____

DART AEROSPACE LTD		Work Order:	24129
Description: Dart 13-Man Shoulder Harness Kit (205/212/214/412)		Part Number:	D3196-1
04.02.23 <i>W</i>			
Dwg: D3195 Rev. A; D3196 Rev. A; D3197 Rev. A1		Qty:	15 Kits
Ref: D412-702 Rev. A page 9			Page 3 of 4

Step	Location	Procedure	By	Date	Qty
37	GA	Bond D3195-5 into D3195-1 as per Dwg D3195 Pick: Qty Description Batch A/R Contact Cement Identify as D3195-041			
38	GA	Bond D3195-7 into D3195-3 as per Dwg D3195 Pick: Qty Description Batch A/R Contact Cement Identify as D3195-043			
39	QC5	Inspect work to Step 38			
40	GA	Assemble (2) D3197-041 as per Dwg D3197. (Note: D3197-1 is on BOM as material from Step 7) Pick: Qty Part Number Description Batch 4 D2690-5 Lanyard 2 D3197-1 Bar 4 D3242-1 Tag 12 AN960JD10 Washer 4 DARS-004 Pip Pin 4 MS21042L3 Nut (or -3) 4 MS27039-1-24 Bolt <i>2-rew 4/01/29</i> Identify as D3197-041	<i>W</i>		
41	QC5	Inspect work to Step 40			
42	KP	Pick: Packing Kit (Note: D3195-041/-043, D3196-1/-3/-4 are on BOM as material from Steps 3-6, 35-36) Qty Part Number Description Batch 2 D3195-041 Bracket 2 D3195-043 Bracket 1 D3196-1 Bar 1 D3196-3 Bar 1 D3196-4 Bar 2 D3197-041 Bar 4 D3198-1 Fitting 18 D3215-041 Harness Assembly 4 D3215-043 Harness Assembly 4 AN4-5A Bolt 4 AN4-13A Bolt 8 AN4-20A Bolt 20 AN960JD416 Washer 12 MS21042L4 Nut (or -4) 8 MS24694-S152 Screw 2 D3268-1 Placard			
43	QC4	Inspect Kit 100% for Completeness on the W/O			
44	PK	Identify and pack for shipping as per PPP-D412-702-011 <i>ID + stack</i> <i>D3196-1</i>	<i>CL</i>	05/10/25	15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

NOTE: Date & initial all entries

QA: N/C Closed: _____ Date: _____

DART AEROSPACE LTD		Work Order:	24129
Description: Dart 13-Man Shoulder Harness Kit (205/212/214/412)		Part Number:	D3196-1
04.02.23			
Dwg: D3195 Rev. A; D3196 Rev. A; D3197 Rev. AI		Qty:	15 Kits
Ref: D412-702 Rev.A page 9			Page 4 of 4

Step	Location	Procedure	By	Date	Qty
45	AC	Cost / part 32.09	S45	05-10-25	15
46	DC	Close W/O 30.04 Inspect Level 21	12	05/10/26	15

Rev	Date	Change	Revised By	Approved
A	03.10.17	New issue	KJ/RF	

RELEASED
04.01.08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

NOTE: Date & initial all entries

QA: N/C Closed: _____ Date: _____

DART AEROSPACE LTD		Work Order:	24129
Description: Bar		Part Number:	D3196-1
Inspection Dwg: D3196 Rev: A		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
26.094	+/-0.010	26.100	/		Tape	
4.083	+/-0.010	4.087	/			
17.928	+/-0.005	17.930	/		Tape	
0.750	+/-0.005	.750	/			Mat width
1.500	+/-0.010	1.500	/			Mat width
Ø0.344	+0.005/-0.000	Ø.345	/			
Ø0.660 x 100°	+/-0.005	.665 x 100°	/			
0.060 x 45°	+/-0.010	.060 x 45°	/			
0.750	+/-0.010	.752	/			Mat. thickness
0.250	+/-0.010	.251	/			
3.583	+/-0.010	3.583	/			
9.000	+/-0.010	9.000	/		Tape	
16.844	+/-0.010	16.850	/		Tape	
21.511	+/-0.010	21.510	/		Tape	
R0.125	+/-0.010	R.125	/			
1.000	+/-0.010	1.001	/			
R0.125	+/-0.010	R.125	/			

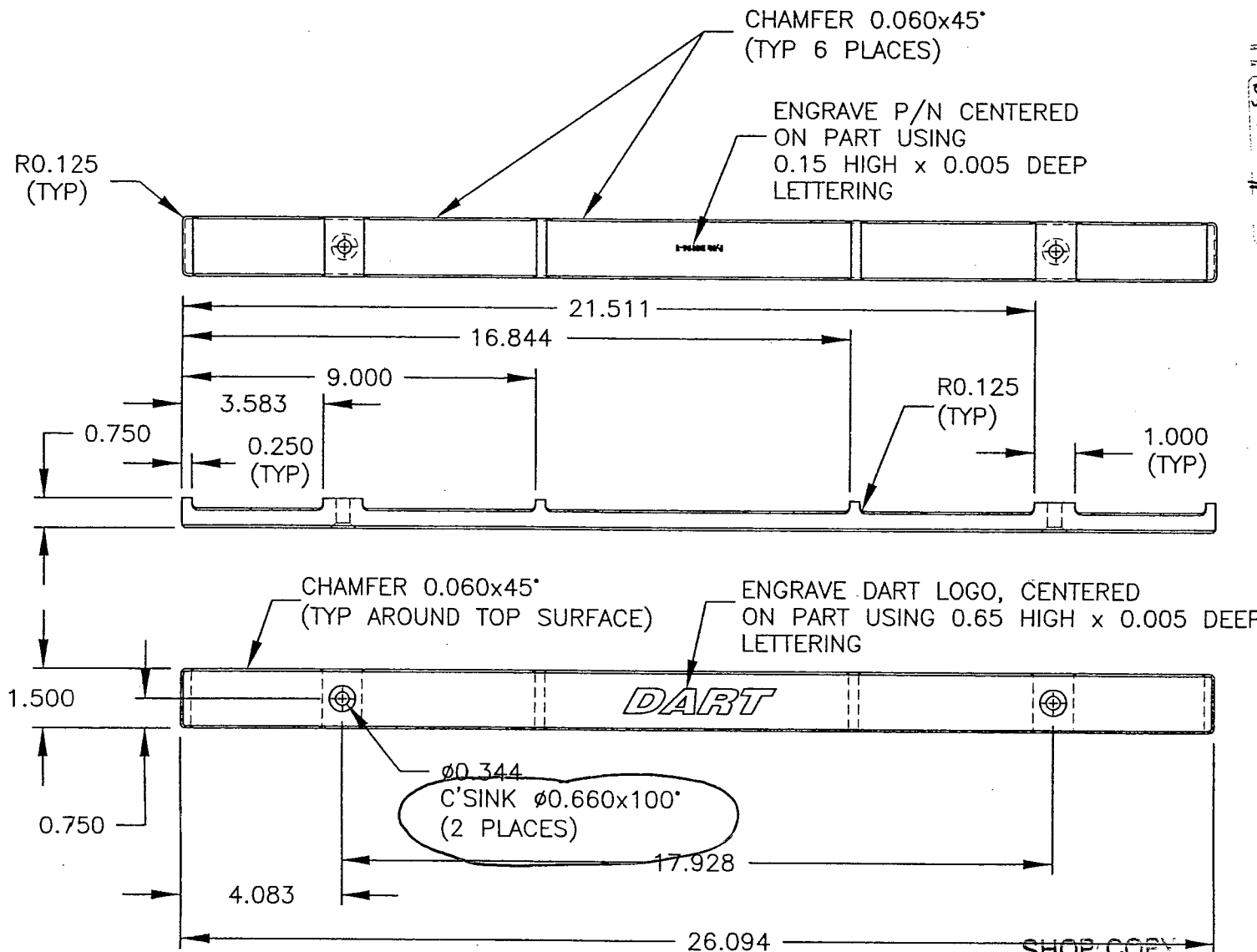
Measured by: <u>SD</u>	Audited by: <u>BG</u>	Prototype Approval:	N/A
Date: <u>05.09.12</u>	Date: <u>05.09.12</u>	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	04.04.20	New Issue (P/O D412-702-011)	KJ/RF	<u>[Signature]</u>

RELEASED

[Signature] 04.04.26

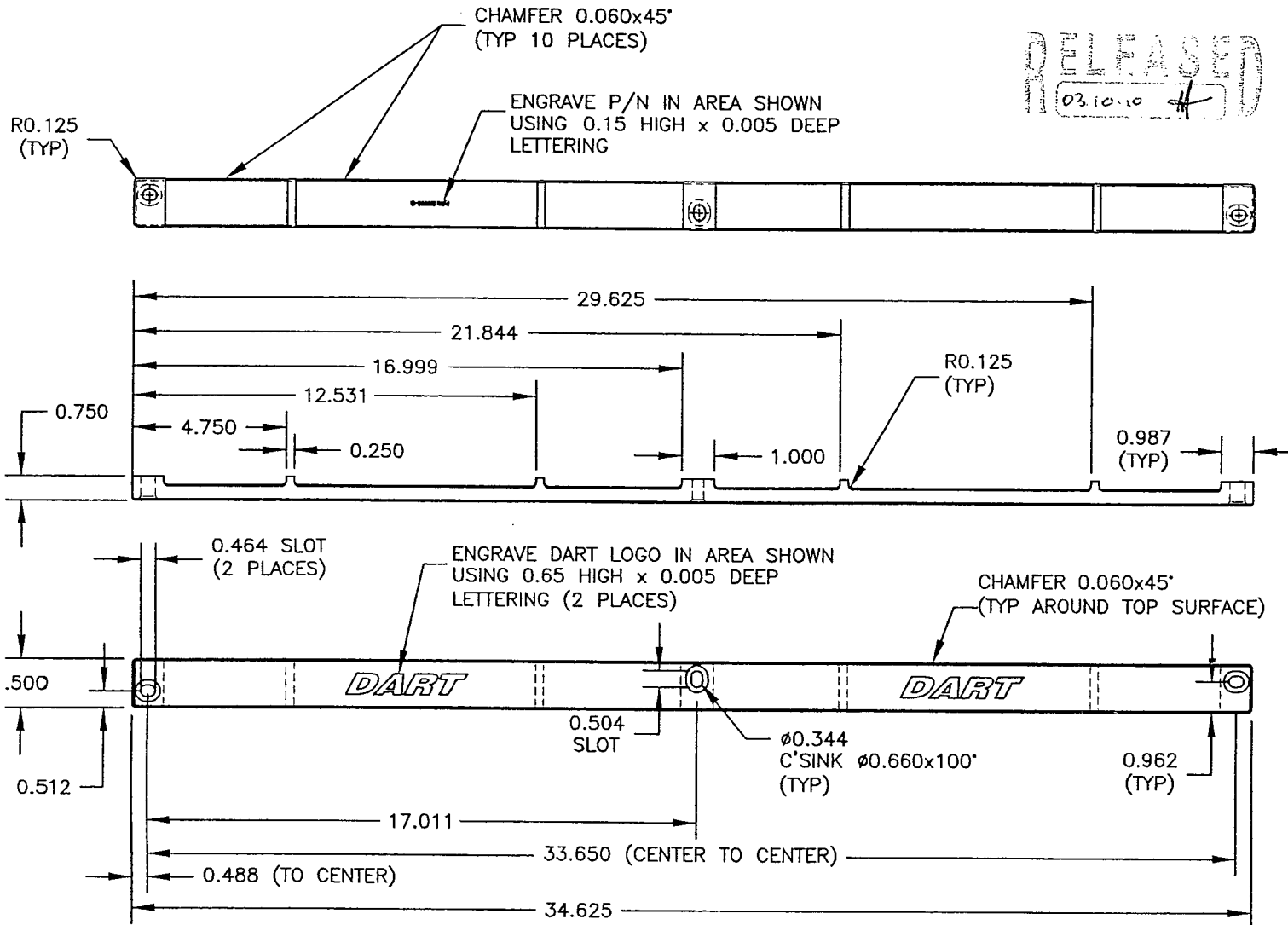
RELEASED
03.06.25



D3196-1 BAR

- 1) MATERIAL: 6061-T6/T651 ALUMINUM (QQ-A-200/8 OR QQ-A-225/8) (REF DART SPEC. M6061T6B)
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 3) FINISH: POWDER COAT GREY SANDTEX (4.3.5.6) PER DART QSI 005 4.3
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

DESIGN	CP	DRAWN BY	CP	DART AEROSPACE LTD
CHECKED	CP	APPROVED	CP	HAWKESBURY, ONTARIO, CANADA
DATE	03.06.25	DRAWING NO.	D3196	REV. A
TITLE	BAR	SCALE	1:4	SHEET 1 OF 3
A	03.06.25	NEW ISSUE		



D3196-3 BAR

- 1) MATERIAL: 6061-T6/T651 ALUMINUM (QQ-A-200/8 OR QQ-A-225/8) (REF DART SPEC. M6061T6B)
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 3) FINISH: POWDER COAT GREY SANDTEX (4.3.5.6) PER DART QSI 005 4.3
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

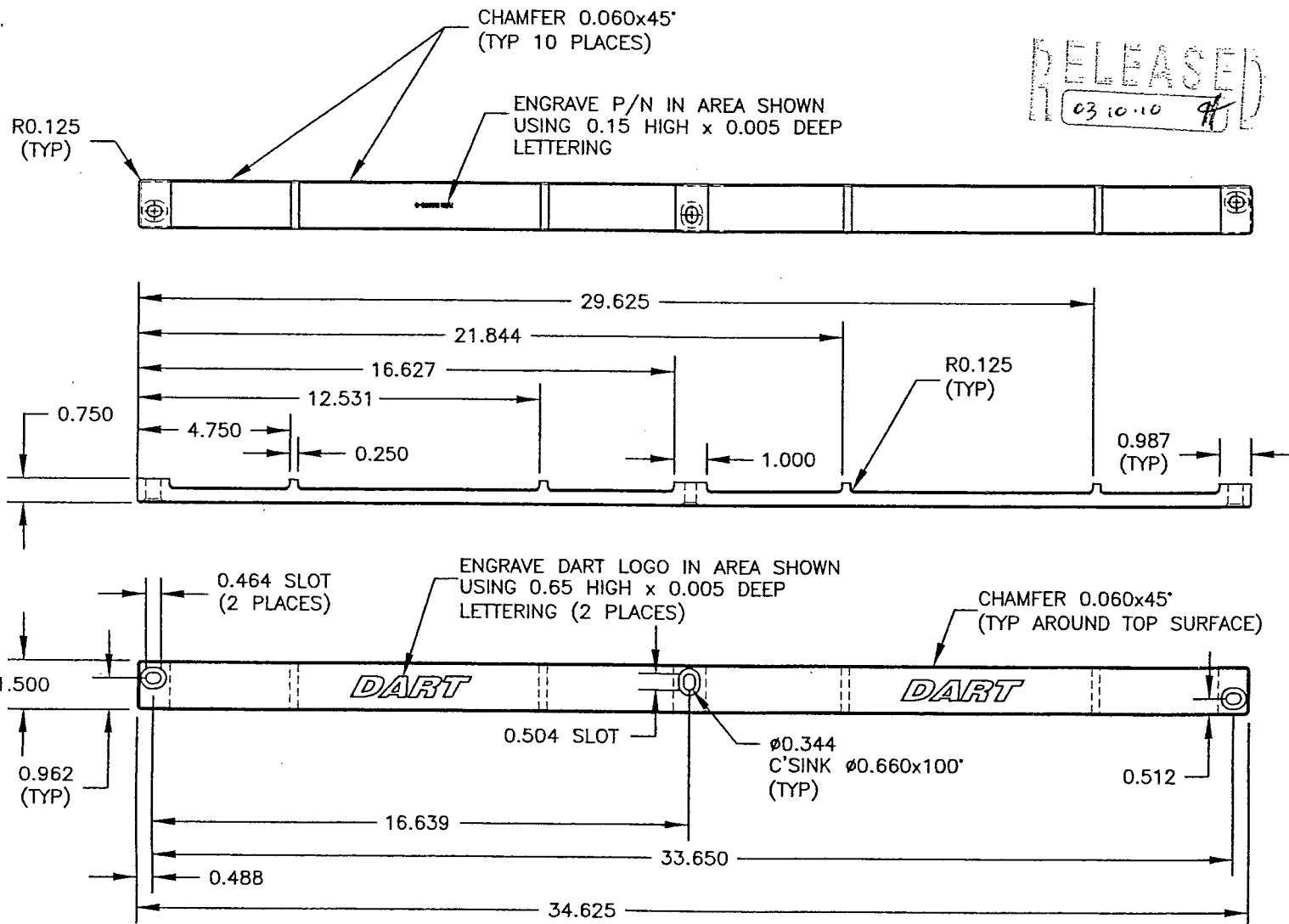
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 24129

DESIGN	DRAWN BY	DART AEROSPACE LTD
CHECKED	APPROVED	HAWKESBURY, ONTARIO, CANADA
DATE	DRAWING NO.	REV. A
03.06.25	D3196	SHEET 2 OF 3
TITLE	SCALE	1:5
BAR		



RELEASED
03.10.10



D3196-4 BAR

- 1) MATERIAL: 6061-T6/T651 ALUMINUM (QQ-A-200/8 OR QQ-A-225/8) (REF DART SPEC. M6061T6B)
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 3) FINISH: POWDER COAT GREY SANDTEX (4.3.5.6) PER DART QSI 005 4.3
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 24129

RELEASED
03 10 10

DART

QA COPY ISSUED

DESIGN	DRAWN BY	DART AEROSPACE LTD
CHECKED	APPROVED	HAWKESBURY, ONTARIO, CANADA
DATE	TITLE	REV. A
03.06.25	D3196	SHEET 3 OF 3
	BAR	SCALE
		1:5

Roberto Fuentes

From: "David Shepherd" <davids@dartaero.com>
To: "Roberto Fuentes" <robertof@dartaero.com>
Sent: Tuesday, September 13, 2005 2:09 PM
Subject: Re: D3196-1 Bar c'sink to deep

This is an acceptable deviation.

----- Original Message -----

From: Roberto Fuentes
To: David Shepherd
Sent: Tuesday, September 13, 2005 11:57 AM
Subject: D3196-1 Bar c'sink to deep

Hi David,

D3196-1 Bar batch: 24129, the c'sink litter big dwg call for \varnothing 0.660" X 100 and now is \varnothing 0.700" when was machine in both holes but only happen in one part. It is acceptable?

Note: see fax
Thanks,
Roberto

9/13/2005

Job Costing Report

Dart Aerospace Ltd.
Hawkesbury

Aug 30, 2005
07:42 am

Work Order No : 0024129
Project Name : D3196-1
Project For : WK538
Work Order Type : Main
Main WO Number :
House Part Number : D3196-1
Description : Bar
Manufactured : Yes
Amount Req'd : 15
Amount Done : 0
Start Date : 08-29-05
Est Finish Date : 09-21-05
Act Finish Date :
Drawings Req'd : No
Ok for Approval :
Approval Rec'd :

Department Code:
Burden Flags : NNNNNNNN
WO Status : Open
Invoice State : Not Invoiced
Invoice Date :
Invoice Number :
Invoice Amount : 0.00
Order Entry No :
OE Value : 0.00
Est Mark Up : 0.000%
Actual Mark Up : 0.000%
\$0 Posted to Finished Goods

	Estimated	Actual	Var. %	Posted	To Post
Material Cost :	0.00	0.00	0.00	0.00	0.00
Engineering Hours :	0.00	0.00	0.00		
Engineering Cost :	0.00	0.00	0.00	0.00	0.00
Production Hours :	0.00	0.00	0.00		
Production Cost :	0.00	0.00	0.00	0.00	0.00
Packaging Hours :	0.00	0.00	0.00		
Packaging Cost :	0.00	0.00	0.00	0.00	0.00
OverHead Hours :	0.00	0.00	0.00		
OverHead Cost :	0.00	0.00	0.00	0.00	0.00
CNC Hours :	0.00	0.00	0.00		
CNC :	0.00	0.00	0.00	0.00	0.00
Misc. Hours :	0.00	0.00	0.00		
Misc. :	0.00	0.00	0.00	0.00	0.00
Burden :	0.00	0.00	0.00		
Total Cost :	0.00	0.00	0.00		
Mark up :	0.000	0.000			
Selling Cost :	0.00	0.00			

	Estimated	Actual
Labour Hrs/Amount Done :	0.00	0.00
Profits/(Loss) :	0.00	0.00